

WHAT IS CLAIMED IS:

1. A method of protecting electrical assemblies fabricated on printed circuit board which comprises:

providing a printed circuit board having an electrical assembly formed thereon, the printed circuit board having an upper surface and a lower surface, the upper surface of the printed circuit board having a topography defined by the size, shape and location of individual components of the electrical assembly;

providing a first molded form configured to cover the upper surface of the printed circuit board, said first molded form having an inner surface which is substantially complementarily shaped to the topography of the upper surface of the printed circuit board,

providing a second molded form configured to cover the lower surface of the printed circuit board;

securing the printed circuit board between the first and second molded forms to protect the electrical assembly from damage caused by at least one of vibration, shock and thermal changes.

2. A method of protecting electrical assemblies fabricated on printed circuit board according to claim 1, wherein the first and second molded forms comprises co-molded forms.

3. A method of protecting electrical assemblies fabricated on printed circuit board according to claim 2, wherein the co-molded forms comprise a outer surface layer that is harder than a central portion of the co-molded forms.

4. A method of protecting electrical assemblies fabricated on printed circuit board according to claim 3, wherein out outer surface layer has ridges formed therein.

5. A method of protecting electrical assemblies fabricated on printed circuit board according to claim 1, wherein the first and second molded forms are molded together about a hinge.

6. A method of protecting electrical assemblies fabricated on printed circuit board according to claim 1, wherein at least one of the first and second molded forms includes an embedded structure therein.

7. A method of protecting electrical assemblies fabricated on printed circuit board according to claim 4, wherein the embedded structure comprises at last one of a rigid structure, an emi shield and a thermal conductor.

8. A method of protecting electrical assemblies fabricated on printed circuit board according to claim 1, wherein the electrical assemblies comprise assemblies that are used in down hole applications.

9. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board which method comprises:

providing a printed circuit board having an electrical assembly formed thereon and having an upper surface and a lower surface, the upper surface of the printed circuit board having a topography defined by the size, shape and location of individual components of the electrical assembly;

producing an electronic image of the upper surface;

modifying the electronic image of the upper surface;

fabricating a mold for injection molding a molded form that is substantially complementarily shaped to the topography of the upper surface of the printed circuit board, said mold being complementarily shaped to the topography of the upper surface of the printed circuit board by an operation that utilizes the modified electronic image of the upper surface of the printed circuit board; and

injection molding a molded form using the mold.

10. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 9, wherein the electronic image of the upper surface of the printed circuit board is produced by scanning the upper surface of the printed circuit board.

11. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 9, wherein the electronic image is modified by measuring the heights of the individual components of the electrical assembly and either adding a factor to the measured heights or subtracting a factor from the measured heights.

12. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 9, wherein the electronic image is modified by adjusting for space around each of the individual components of the electrical assembly.

13. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 9, wherein the molded form is co-molded.

14. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 13, wherein the co-molded form comprises a outer surface layer that is harder than a central portion of the co-molded form.

15. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 14, wherein the out outer surface layer has ridges formed therein.

16. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 9, wherein the molded form comprises upper and lower molded form portions.

17. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 16, wherein the upper and lower molded form portions are coupled together by a hinge.

18. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 9, wherein an embedded structure is molded into the molded form.

19. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 18, wherein the embedded structure comprises at least one of a rigid structure, an emi shield and a thermal conductor.

20. A method of fabricating a molded form used to protect an electrical assembly provided on a printed circuit board according to claim 9, wherein the electrical assembly comprises an assembly that is used in down hole applications.

21. Molded pre-forms made according to the method of claim 9.